

REMARKS

Claims 1-15 were previously pending in this application.

Claims 14-15 stand withdrawn as non-elected responsive to a restriction requirement and hereby cancelled without prejudice for presentation in a divisional application.

Claim 9 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1, 2, and 4 are rejected under 35 U.S.C. 102(b) as being anticipated by the admitted prior art ("APA").

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over APA in combination with JP 02-039442 ("Mutsuo").

Claims 5, 6, 8 and 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over APA as applied to claim 5 and further in view of JP 356115548 ("Takehara").

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over APA and Takehara as applied to claim 5 and further in view of U.S. Pat. No. 5,293,511 issued to Poradish et al ("Poradish").

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over APA and Takehara as applied to claim 5 and further in view of JP 401053795 ("Shoji").

Claim 13 is objected to as being dependent upon a rejected base claim and would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 1, 5, and 9 are amended. New claims 16-18 are added.

No new matter is added.

Claims 1-13 and 16-17 remain in the case for reconsideration.

Reconsideration is respectfully requested.

Allowable Subject Matter

Applicant thanks the Examiner's indication that Claim 13 would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims Rejections – 35 USC § 112

Claim 9 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The rejections are respectfully traversed.

Claim 9 is amended to recite “said metallic adhesive is solder” and claim 5 is amended to provide proper antecedent basis for this limitation.

Thus, the rejection of claim 9 under 35 U.S.C. 112, second paragraph, is overcome.

Claims Rejections – 35 USC § 102

Claims 1, 2, and 4 are rejected under 35 U.S.C. 102(b) as being anticipated by the admitted prior art (“APA”). The rejection of claims 1, 2, and 4 is respectfully traversed.

The Examiner alleges that APA discloses “removing the photoresist from the chip (80).”

On the contrary, APA merely discloses removing “organic compounds” remaining on the upper surface 21 of the base substrate 20, the semiconductor chip 12 on the surface, and the bonding wires 40, *not* a “photoresist” as recited in the claimed invention. A person skilled in the art will appreciate that the organic compounds mentioned in APA (step 80 of FIG. 3) are not a photoresist to protect mirrors from the external environment such as contaminants, e.g., silicon particles during the wafer sawing process, but are undesirable contaminants to be removed after the wire-bonding step, as stated in the specification at page 9, lines 31-page 10, line 2, which clearly distinguishes the photoresist from organic compounds as follows:

“The present invention also omits the conventional step of removing undesirable organic particulate or compounds after the wire-bonding step. During the step for removing the *photoresist*, the present invention also removes any the *organic compounds* remaining on the upper surface of the base substrate, the semiconductor chip and the bonding wire.”

Further, in APA, because the photoresist is already removed during step 73, it cannot be removed again during step 80, as alleged by the Examiner. *See* FIG. 3 of the specification. Consequently, Applicant respectfully asserts that APA does not anticipate the present invention.

Accordingly, the rejection under 35 U.S.C. 102(b) is improper as omitting a required

element of the claim. Thus, claim 1, and claims 2 and 4, which depend therefrom, are allowable.

As to new claim 16, it recites:

*“coating the one or more mirrors with a photoresist film;
singulating the one or more semiconductor chips from the wafer;
mounting the one or more semiconductor chip on a top surface of a base substrate using a metallic adhesive;
electrically interconnecting the electrodes of the semiconductor chip to the base substrate; and
removing the coated photoresist film from the one or more mirrors of the semiconductor chips.”*

As discussed above, organic compounds are not a photoresist. In addition, in APA, no organic compounds are specifically shown to be formed on the mirrors. Thus, APA cannot teach or disclose: *“removing the coated photoresist film from the one or more mirrors of the semiconductor chips,”* as recited in new claim 16.

Claims Rejections – 35 USC § 103

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art (APA) in combination with Mutsuo (JP 02-039442).

Claims 5, 6, 8 and 10-12 are rejected under 35 U.S.C 103(a) as being unpatentable over APA as applied to claim 5 and further in view of JP 356115548 (“Takehara”).

Claim 7 is rejected under 35 U.S.C 103(a) as being unpatentable over APA and Takehara as applied to claim 5 and further in view of Poradish et al. (U.S 5,293,511).

Claim 9 is rejected under 35 U.S. C 103(a) as being unpatentable over the admitted prior art and Takehara as applied to claim 5 and further in view of Shoji (JP 401053795).

The rejection under 35 U.S.C. 103(a) is respectfully traversed.

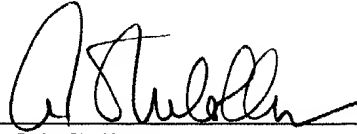
For the reasons stated above, cited references including APA lack the limitations of the claimed invention, for example, *“removing the photoresist from the semiconductor chips.”* Thus, the Examiner does not present a *prima facie* case of obviousness. Accordingly, the rejection under 35 U.S.C. 103(a) is overcome and claims are allowable.

For the foregoing reasons, reconsideration and allowance of claims 1-13 of the application as amended is solicited. The Examiner is encouraged to telephone the

undersigned at (503) 222-3613 if it appears that an interview would be helpful in advancing the case.

Respectfully submitted,

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